SUPPLEMENTARY FIGURES

Figure S1_Male. Fasting glucose and insulin in blood, related to Figure 1. Male survivors until 15 months of age were included for the Pre-Post comparison (Vehicle: N = 22; MSC lysate: N = 19), measured at 9 months and 15 months of age. MSC lysate treatment increased fasting glucose (A) and decreased insulin (B), resulting in decreased HOMA-IR (C) after 2 sessions of MSC lysate treatment. No difference in blood glucose concentrations during insulin tolerance test (insulin injection at 0.3 U/kg body weight) were observed between the Vehicle and MSC lysate groups after 5 sessions of MSC lysate treatment (Vehicle: N = 13; MSC lysate: N = 9) (D). * Significant difference against the Vehicle group, p ≤ 0.05. † Significant difference against pre-treatment value (9 months of age), p ≤ 0.05. Abbreviation: MSC, adipose-derived mesenchymal stem cell.
Figure S1. Female. Fasting glucose and insulin in blood, related to Figure 1. Female survivors until 15 months of age were included for the Pre-Post comparison (Vehicle: N = 21; MSC lysate: N = 20), measured at 9 months and 15 months of age. No significant differences in glucose (A), insulin (B), and HOMA-IR (C) were observed between the Vehicle and MSC lysate groups after 2 sessions of treatment. Blood glucose concentrations during insulin tolerance test (insulin injection at 0.3 U/kg body weight) of the MSC lysate group was significantly lower than those of the Vehicle group, after 5 sessions of MSC lysate treatment (Vehicle: N = 14; MSC lysate: N = 15) (D). * Significant difference against the Vehicle group, p ≤ 0.05. Abbreviation: MSC, adipose-derived mesenchymal stem cell.
**Figure S2-Male. Survival curve of male rats, related to Figure 2.** MSC lysate treatment started from 12 months of age (Vehicle: N = 24; MSC lysate: N = 24). Mean lifespans of the vehicle and MSC lysate groups were 684 d and 598 d, respectively ($p \leq 0.05$). Abbreviation: MSC, adipose-derived mesenchymal stem cell.

**Figure S2-Female. Survival curve of female rats, related to Figure 2.** MSC lysate treatment started from 12 months of age (Vehicle: N = 22; MSC lysate: N = 22). Mean lifespans of the vehicle and MSC lysate groups were 750 d and 722 d, respectively (no significance). Abbreviation: MSC, adipose-derived mesenchymal stem cell.
Figure S3 Male. Body weight changes, related to Figure 3. Male survivors until 15th months were included for the Pre-Post comparison (Vehicle: N = 22; MSC lysate: N = 19), measured at 9 months and 15 months of age. Significant weight loss was observed in the MSC lysate group following 2 sessions of intervention in the first 3 months (p ≤ 0.05) (A). MSC lysate-treated rats showed greater incidence of rapid weight loss (more than 7% of peak body weight during their lifetime) than the Vehicle-treated rats (Chi-square, p ≤ 0.05) (B). MSC lysate-treated rats had greater weight loss occurred 1 month before death compared with the Vehicle-treated rats (Vehicle: N = 24; MSC lysate: N = 24) (C). * Significant difference against the Vehicle group, p ≤ 0.05. Abbreviation: MSC, adipose-derived mesenchymal stem cell.
Figure S3_Female. Body weight changes, related to Figure 3. Female survivors until 15\textsuperscript{th} months were included for the Pre-Post comparison (Vehicle: N = 21; MSC lysate: N = 20), measured at 9 months and 15 months of age. No significant difference in weight loss (A) was observed between the Vehicle and MSC lysate groups following 2 sessions of intervention. Similarly, no significant difference in the incidence of rapid weight loss (more than 7\% of peak body weight during their lifetime) was observed between the Vehicle and MSC lysate groups after treatment (B). The magnitude of accelerated weight loss occurred 1 month before death was similar between both groups (Vehicle: N = 22; MSC lysate: N = 22) (C). Abbreviation: MSC, adipose-derived mesenchymal stem cell.